

The Role of Digital Transformation in Resilience of MSMEs Post-Pandemic: A Literature Review

Ega Friska Fadila^{1*}

¹ Universitas Tidar, Magelang, Indonesia

Abstract

Article history:

Received: July 9, 2024

Revised: August 22, 2024

Accepted: October 25, 2024

Published: December 30, 2024

Keywords:

Business Resilience,
Digital Literacy,
Digital Transformation,
MSMEs,
Post-Pandemic.

Identifier:

Nawala

Page: 131-145

<https://nawala.io/index.php/ijdb>

Micro, Small, and Medium Enterprises (MSMEs) have an important role in the Indonesian economy because they absorb a large number of workers and contribute significantly to the Gross Domestic Product (GDP). However, the COVID-19 pandemic has had a serious impact on the sustainability of MSMEs, with a decline in turnover, distribution disruptions, and limited capital that threatens business resilience. Digital transformation is a key strategy to increase the competitiveness and resilience of MSMEs after the pandemic. This study uses the literature review method by examining journal articles, books, government reports, and relevant scientific publications in the last five to ten years. The results of the study show that the use of e-commerce, social media, digital payment systems, big data, and business management applications is able to expand market reach, increase operational efficiency, and strengthen the adaptability of MSMEs to market changes. However, digital transformation also faces various challenges such as low digital literacy, limited infrastructure, lack of capital, and fierce competition in the digital ecosystem. Therefore, comprehensive support from the government, financial institutions, and other strategic partners is needed to encourage the acceleration of MSME.

*Corresponding author:

ega.friska.fadila@students.untidar.co.id (Ega Friska Fadila)

©2024 The Author(s).

This is an open-access article under CC-BY-SA license (<https://creativecommons.org/licence/by-sa/4.0/>)



1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) have a vital role in Indonesia's economy, not only as the largest providers of employment but also as the primary drivers of local and community-based economic activities. MSMEs operate across many sectors, including culinary, handicrafts, fashion, and tourism, thereby creating strong linkages between economic development and social empowerment. They contribute to household income and serve as instruments for household empowerment and job creation, which strengthens people's economic security (Maksum et al., 2020). The contribution of MSMEs extends far beyond daily transactions. They are widely recognized as the backbone of the national economy because of their proven ability to survive crises and act as stabilizers of economic fluctuations. Their contribution to the national Gross Domestic Product (GDP) exceeds 60%, with labor absorption reaching 97% of Indonesia's workforce (Ministry of Cooperatives and SMEs, 2023).

Beyond economic contributions, MSMEs also generate profound social impacts by empowering communities, improving household welfare, and supporting locally based development initiatives. Their adaptability and reliance on local potential enable them to stimulate regional growth while reinforcing the broader national economic structure. The outbreak of the COVID-19 pandemic, however, severely disrupted the resilience of MSMEs in Indonesia. Unlike economic conditions before the crisis, the pandemic paralyzed multiple industrial sectors, forcing the government to impose large-scale restrictions on mobility and social activities (Pujaningsih & Sucitawathi, 2020). As purchasing power declined and

mobility was limited, many MSMEs experienced sharp drops in turnover, with some forced to shut down operations entirely. Data from the Ministry of Cooperatives and SMEs show that more than 80% of MSMEs were directly affected, with widespread cash flow shortages and product distribution barriers. Heavy reliance on conventional sales systems further worsened their situation, highlighting structural vulnerabilities. Five main protection schemes were introduced by the government, including social assistance for MSMEs in poor and vulnerable categories. Yet, MSMEs continued to face internal and external constraints that limited their ability to recover.

In the post-pandemic era, MSMEs encounter various challenges in rebuilding resilience. Consumer behavior has shifted significantly toward digital platforms, requiring MSMEs to adjust rapidly. Yet many remain dependent on offline channels, with limited business capital, weak financial management, and low digital literacy acting as critical obstacles. Moreover, intensified competition in digital marketplaces necessitates more innovative and technology-driven marketing approaches. According to Permata et al. (2023), a decline in consumer purchasing power due to global economic impacts further complicates recovery. Without strategic transformation, MSMEs remain vulnerable to external shocks that may disrupt their continuity in the future.

To overcome these challenges, digital transformation emerges as a crucial pathway for strengthening MSME competitiveness and resilience. The reliance of consumers on digital technology in searching for information, shopping, and conducting transactions makes it imperative for MSMEs to adopt digital tools.

Through e-commerce platforms, social media engagement, digital payment systems, and integrated business applications, MSMEs can expand their market reach, increase operational efficiency, and reduce dependence on conventional practices. Digitalization not only modernizes business operations but also creates opportunities for new value propositions, customer segmentation, and improved resource utilization (Kirana et al., 2023).

This study aims to explore the role of digital transformation in strengthening the resilience of MSMEs in the post-pandemic era. While most prior research has focused on the adoption of digital technology in general or its effects on business performance, relatively little has examined its specific role in post-pandemic recovery and resilience building. Many studies emphasize technical or operational adoption but rarely analyze resilience dimensions such as the ability to survive crises, adapt to uncertainty, and grow sustainably in volatile markets.

Therefore, a comprehensive investigation is required to understand how digital transformation can actively enhance the resilience of MSMEs after the pandemic. This research also seeks to identify the barriers faced by MSMEs in implementing digital strategies and the strategic measures that can be applied to strengthen their long-term capacity. Findings are expected to contribute not only to the academic discussion of MSME digitalization but also to practical recommendations for policymakers, business support institutions, and MSME actors in building stronger, more resilient, and adaptive businesses in Indonesia's digital economy.

2. Methods

The research method applied in this study is a literature review, which emphasizes reviewing, analyzing, and synthesizing various scholarly sources related to digital transformation and the resilience of MSMEs in the post-pandemic period. This method was selected because it allows researchers to comprehensively map existing knowledge, highlight theoretical and empirical findings, and identify research gaps that have not been adequately addressed. By systematically compiling insights from previous studies, the literature review approach provides a strong conceptual foundation for understanding how digital transformation contributes to strengthening MSME.

The process of data collection was carried out by searching academic articles, books, government reports, and reputable publications that focus on the intersection of MSME development, digitalization, and business resilience. The literature sources were primarily drawn from journals indexed in Google Scholar, Elsevier, Researchgate, and national/international research databases. To ensure the relevance and reliability of the findings, the review was limited to studies published in the last five to ten years, a timeframe considered sufficient to capture the rapid evolution of digital transformation trends, while still including foundational research that remains significant for theoretical development.

The analysis was conducted systematically by applying several stages. First, the literature was screened using keywords such as “digital transformation,” “MSMEs,” “business resilience,” and “post-pandemic recovery.” Second, selected sources were examined to extract their core arguments, research methods, and key

findings. Third, the results of different studies were compared to identify similarities, differences, and patterns of evidence. This synthesis stage allowed for the formulation of a broader understanding of the challenges, opportunities, and strategic approaches related to MSME digital transformation.

This methodological approach was also chosen because it facilitates a critical and reflective perspective. Rather than merely summarizing existing studies, the literature review positions findings within a larger narrative about digital transformation and MSME resilience, uncovering gaps where further empirical research is needed. Thus, the study not only provides descriptive insights but also lays the groundwork for future investigations that may involve case studies, surveys, or mixed-methods research to deepen the understanding of MSME adaptation strategies.

3. Results and Discussion

3.1. The Challenges of Digital Transformation in Increasing the Resilience of MSMEs

During the Covid-19 pandemic in Indonesia, MSMEs faced several specific problems which included a decrease in the level of ability or purchasing power of consumers, problems with funding and financial management, a lack of skills and competence in human resources to adapt to the changes, lack of innovation and digital business legality and business licenses (Rohmatin et al., 2021). The challenge of digital transformation in increasing the resilience of MSMEs lies in various interrelated aspects, ranging from limited resources to the readiness of business

actors. Many MSMEs still face obstacles in terms of digital literacy, making it difficult to make optimal use of technology for marketing, operational management, and customer service. Capital constraints are also a major obstacle because the digitalization process often requires investment in devices, platforms, and training. In addition, the lack of an even digital infrastructure, especially in rural areas, makes stable internet access an obstacle. Another challenge is the fierce competition in the digital ecosystem that demands continuous innovation, while some MSMEs do not have a strong data-driven business strategy. These factors can hinder the effectiveness of digital transformation in increasing the resilience of MSMEs if it is not balanced with adequate ecosystem support.

On the other hand, many MSMEs do not have enough adaptability to adapt their business models to changes in consumer behavior who are increasingly turning to digital platforms. This condition further emphasizes the importance of strategies oriented towards capacity building and digital transformation so that MSMEs are not only able to survive, but also develop sustainably in the face of the post-pandemic situation and future crisis challenges.

Globally, there are 7 challenges for sustainable digital transformation for MSMEs, which can be classified into three levels of importance. Challenges for MSMEs are IT security problems and a shortage of specialists in the external labor market, problems related to company attributes, such as the number of employees, income, and the ability to implement digital transformation independently (Apoga et. al, 2022). Research by Simbernova et al. (2022) states that SMEs in the Czech Republic face challenges, including related to digital data (Internet of things and big

data); digital approach to customers (relationship with customers, mobile applications, social networks, etc.); technical networks (mobile and cable networks, cloud computing, sensor technology, smart factories, platforms, remote maintenance, pure digital products, etc.); and future jobs (new jobs, new competencies, and new skills). Meanwhile, in the United States, the challenge is in the form of supply chains, so digital transformation is needed. The role of humans in the digital transformation process is highly relevant supported by strong and agile leadership to drive cultural change across the company; and strategies that can instill agility, adaptability, and creativity into MSMEs (Jones et al. 2021) In southern Africa, MSMEs need to pay attention to time, cost, and resources as major barriers for SMEs to adopt digital technology (Telukdarie et al., 2023).

According to Solechan (2023), with the digital transformation, the downstream process and operation of products from producers to consumers will increase, service speed, better trust, secure data exchange platform but also an opportunity for digital transformation. In Indonesia, the implementation of digital transformation still faces challenges. One of the main challenges faced by MSMEs in Banda Aceh, Indonesia is limited access to technology infrastructure, especially in rural and suburban areas (Kurniawati et al., 2021)

In addition to the limitations of technology infrastructure, another challenge faced by MSMEs in implementing digital transformation is the low digital literacy among business actors. Many MSMEs do not optimally understand the use of technology for marketing, operational management, and product development. Capital constraints are also a significant obstacle, as the digitalization process often

requires a significant initial investment, both in hardware, software, and human resource training. On the other hand, competition in the increasingly fierce digital ecosystem requires MSMEs to innovate sustainably in order to survive and compete. This shows that digital transformation not only requires infrastructure support, but also a comprehensive mentoring strategy so that MSMEs are able to utilize technology effectively.

3.2. Digital Transformation Efforts to Increase the Resilience of MSMEs

Digital transformation efforts in improving MSMEs are carried out through various integrated strategies to strengthen competitiveness and business resilience. One of the important steps is to encourage the use of e-commerce platforms and social media as the main marketing channels to expand market reach. In addition, the implementation of digital payment systems such as QRIS can increase transaction efficiency and provide convenience for consumers. MSME actors also need to utilize technology-based business management applications to optimize operations, financial records, and stock management. The government and related institutions can play a role by providing digital literacy training, access to capital, and the provision of equitable internet infrastructure. With this continuous effort, digital transformation is expected to be able to encourage MSMEs to upgrade, be more adaptive to market changes, and have better resilience to future crises.

Through the integration of more advanced technologies, support from various stakeholders, and the development of more focused and adaptive programs, Sibakul Jogja can overcome most of the challenges faced (Amari'a & Ulinnuha, 2023) Small and medium-sized enterprises (SMEs) can leverage big data and analytics to

collect, store, and research large amounts of data. This data can be used to understand market trends, customer trends, and product efficacy. By leveraging data analytics, small and medium-sized businesses (SMEs) can improve their decision-making processes by making more accurate and strategic choices, such as modifying their product offerings or refining their pricing strategies. Digital transformation in organizations and environments encourages changes in industry governance and customer behavior that forces organizations to have superior general administration with the help of digital technology (Riantoet al., 2020). According to Carlson and Isaacs (2018), micro-scale retail to transform into a digital business must improve the competencies, capabilities, and resources they have as initial capital to enter digital business. It can be concluded that digital technology can help MSMEs make their work easier (Diansari et al., 2022). Digital transformation and religious ethics have been proven to positively and significantly impact MSME performance.

In addition to the use of big data and analytics, MSMEs can also maximize the potential of digital technology through the implementation of customer relationship management (CRM) and marketing automation. By using a CRM system, MSMEs can build more personalized relationships with customers, increase retention, and identify new market opportunities. Meanwhile, marketing automation allows MSMEs to save time and costs by leveraging technology in digital campaigns, such as scheduling social media content, sending marketing emails, and targeting ads more on target. This approach can help MSMEs improve operational efficiency while expanding their market reach.

On the other hand, the support of the government and related institutions is an important factor to ensure the success of MSME digital transformation. Sustainable mentoring programs, increasing digital literacy, and providing incentives or access to affordable financing will help MSME actors be more confident in adopting new technologies. In addition, collaboration with the private sector, such as e-commerce platforms and technology providers, can open up wider access for MSMEs to enter the digital market. With an inclusive and mutually supportive ecosystem, digital transformation is expected to run optimally so that MSMEs are able to increase their competitiveness and resilience in the face of changing market dynamics.

Digital transformation has a very important role in increasing the competitiveness and resilience of MSMEs in the midst of increasingly competitive market dynamics. Various efforts have been made, such as the use of e-commerce, the implementation of digital payment systems, the use of big data and analytics, to digital literacy training for business actors. However, this process still faces considerable challenges, including limited literacy and digital infrastructure, lack of capital, and fierce competition in the digital ecosystem. Therefore, more comprehensive support from the government, financial institutions, and other strategic partners is needed so that MSMEs can adopt technology effectively and be able to survive and develop in the long term.

Based on these results, it is recommended that digital transformation efforts in MSMEs be carried out in a more structured and sustainable manner by involving various stakeholders. The government needs to strengthen digital infrastructure in

all regions and provide digital literacy training programs that are easily accessible to MSME actors. In addition, financing support and incentives should be expanded to help MSMEs invest in new technologies. Collaboration with the private sector, such as e-commerce platforms and technology providers, is also important to unlock wider market access. With these steps, MSMEs will be better prepared to face challenges while taking advantage of the opportunities offered by digital transformation.

5. Conclusion

Based on the study, it can be concluded that digital transformation plays a crucial role in enhancing the resilience of MSMEs, particularly in the post-pandemic era. It supports competitiveness, market expansion, and business sustainability. However, the process still faces significant challenges, including low digital literacy, limited capital, uneven internet infrastructure, and the absence of data-based business strategies. Despite these obstacles, several initiatives have been undertaken, such as the use of e-commerce platforms, the implementation of digital payment systems, adoption of business management applications, and provision of digital literacy training for MSME actors. With stronger support from the government, financial institutions, and the private sector, a more inclusive ecosystem can accelerate the digital transformation of MSMEs. This research applied a literature review approach, meaning that findings are limited to secondary sources and do not directly capture current empirical conditions in the field. Consequently, the

conclusions remain descriptive, without quantitative measurement of MSME resilience or digital transformation success.

For MSME actors, continuous improvement of digital literacy is essential to optimize the use of technology in marketing, management, and services. The government and financial institutions are advised to expand financing schemes and digital infrastructure investment to encourage wider adoption. Collaboration with e-commerce platforms, technology providers, and business communities also needs to be intensified to ensure MSMEs remain competitive in an increasingly dynamic digital market. Future research should consider quantitative or mixed-methods approaches with primary data collection to directly measure the relationship between digital transformation and resilience. Expanding the research scope to other regions in Indonesia would provide a more comprehensive picture. Further, examining moderating or mediating factors such as government support, social capital, and organizational culture could deepen insights into the success of MSME digital transformation.

References

- Amaria, K. H., & Ulinnuha, R. (2023). Transformation of the welfare of MSME actors through the digitization of coaching in the "Sibakul Jogja" program in Yogyakarta. *ICODEV: Indonesian Community Development Journal*, 4(2), 57-68.
- Carlson, A., & Isaacs, A. M. (2018). Technological capital: an alternative to the digital divide. *Journal of Applied Communication Research*, 46(2), 243-265.

- Diansari, R., Adhivinna, V. V., Umam, M. S., Nusron, L. A., & Kustanti, T. M. (2022). Digitalization and governance program for the micro, small, and medium enterprises (MSMEs) industry in Krebet Tourism Village, Bantul Regency, Special Region of Yogyakarta. *Journal of Indonesian Community Services*, 2(3), 763-770.
- Jones, M.D.; Hutcheson, S; Camba, J.D., (2021). Past, present, and future barriers to digital transformation in manufacturing: A review. *Journal of Manufacturing Systems*, pp. 1-13.
- Kirana, A. Y., Saifudin, M., Mukhlisin, M. M., Fatmawati, N., & Ansori, M. I. (2023). Digital transformation of human resources is an effort to improve the company's capabilities. *Digital Business: Journal of Management Science and E-Commerce Publications*, 2(4), 19-36.
- Kurniawati, E., Idris, I., Handayati, P., & Osman, S. (2021). Digital transformation of MSMEs in Indonesia during the pandemic. *Entrepreneurship and Sustainability Issues*, 9(2), 316.
- Maksum, I. R., Rahayu, A. Y. S., & Kusumawardhani, D. (2020). A social enterprise approach to empowering micro, small and medium enterprises (SMEs) in Indonesia. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(3), 50.
- Permata, M. S., Zunaidi, A., Hermadiani, F., & Chumairo, M. R. (2023). The economic resilience of the people: challenges and prospects for the halal industry after the Covid-19 pandemic crisis. *Proceedings of Islamic Economics, Business, and Philanthropy*, 2(1), 352-365.

- Pujaningsih, N. N., & Sucitawathi, I. G. A. A. D. (2020). The Implementation of the Community Activity Restriction Policy (PKM) in Managing the Covid-19 Outbreak in Denpasar City. *Moderate*, 6(3), 458–470.
- Rohmatin, L., Muliawati, U. F., Khoiriah, L. T., & Rahmawati, L. (2021). Financial management analysis of micro, small, and medium enterprise (MSME) in the covid 19 pandemic era. *JIFA (Journal of Islamic Finance and Accounting)*, 4(1), 71-81.
- Rianto, H., Olivia, H., & Fahmi, A. (2020). Strengthening financial governance and management for business actors in the Three Races Lake Toba tourist area. *JMM (Journal of Independent Society)*, 4(2), 291–299
- Rupeika-Apoga, R., & Petrovska, K. (2022). Barriers to sustainable digital transformation in micro-, small-, and medium-sized enterprises. *Sustainability*, 14(20), 13558.
- Šimberová, I., Korauš, A., Schüller, D., Širáňová, L., Straková, J., & Váchal, J. (2022). Threats and opportunities in digital transformation in smes from the perspective of sustainability: A case study in the Czech Republic. *Sustainability*, 14(6), 3628.
- Solechan, A., A.P., T. W., & Hartono, B. (2023). Digital transformation in MSMEs in increasing market competitiveness. *Journal of Computer Science*, 9(1), 15-20.
- Telukdarie, A., Dube, T.; Matjuta, P.; Philbin, S. (2023). The Opportunities and Challenges of Digitalization for SME's. *Procedia Computer Science* 217 p. 689-698.